

08/12/2011 -----NSR IMS - PROJECT RECORD -----

PROJECT#: 165555 PERMIT#: 7711A STATUS: PENDING  
RECEIVED: 05/05/2011 PROJTYPE: REVISION AUTHTYPE: CONSTRUCT  
RENEWAL: 10/21/2014  
PROJECT ADMIN NAME: INSTALL A LOW NOX BURNER  
PROJECT TECH NAME: ASPHALT ROOFING PRODUCTION FACILITY

DISP CODE:

ISSUED DT: 8/18/11

Assigned Team: MECH/AG TEAM

RECEIVED

SEP 24 2013

## STAFF ASSIGNED TO PROJECT:

OBRIEN , BRENDA

- REVIEWR1\_2 -

AP INITIAL REVIEW

STANFORD , JOEL

- REVIEW ENG -

MECH/AG TEAM

TCEQ  
CENTRAL FILE ROOM

## CUSTOMER INFORMATION (OWNER/OPERATOR DATA)

ISSUED TO: BUILDING MATERIALS CORPORATION OF AMERICA

COMPANY NAME: Building Materials Corporation of America

CUSTOMER REFERENCE NUMBER: CN602717464

## REGULATED ENTITY/SITE INFORMATION

REGULATED ENTITY NUMBER: RN100788959

ACCOUNT: DB0378S

PERMIT NAME: GAF MATERIALS

REGULATED ENTITY LOCATION: 2600 SINGLETON BLVD

REGION 04 - DFW METROPLEX NEAR CITY: DALLAS

COUNTY: DALLAS

## CONTACT DATA

CONTACT NAME: MR DOUG HARRIS

CONTACT ROLE: RESPONSIBLE OFFICIAL

JOB TITLE: ENGINEERING MANAGER

ORGANIZATION: BUILDING MATERIALS CORPORATION OF AMERICA

MAILING ADDRESS: 2600 SINGLETON BLVD , DALLAS, TX, 75212-3738

PHONE: (214) 637-8909 Ext: 0

## PROJECT NOTES:

05/06/2011 DFC 05/06/2011

## PERMIT NOTES:

12/09/2009 INCORPORATE STANDARD PERMIT NO. 91414 AT NEXT AMEND. OR RENEWAL

## TRACKING ELEMENTS:

## TE Name

## Start Date

## Complete Date

APIRT RECEIVED PROJECT (DATE)

05/05/2011

APIRT TRANSFERRED PROJECT TO TECHNICAL STAFF (DATE)

05/06/2011

PROJECT RECEIVED BY ENGINEER (DATE)

05/10/2011

MODELING AUDIT CYCLE

06/24/2011

08/12/2011

FINAL PACKAGE TO TEAM LEADER OR SUPERVISOR FOR REVIEW (DATE) 08/12/2011

FINAL PACKAGE REWORK CYCLE

FINAL PACKAGE TO SECTION MANAGER FOR REVIEW (DATE)

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**Permit Unit  
Type:**

Industry Group	Industry Type	Source Type	Control/BACT Type	Start Date	End Date
MECHANICAL	ASPHALT ROOFING			01/26/2009	

Bryan W. Shaw, Ph.D., *Chairman*  
Buddy Garcia, *Commissioner*  
Carlos Rubinstein, *Commissioner*  
Mark R. Vickery, P.G., *Executive Director*



J Stanford

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY  
*Protecting Texas by Reducing and Preventing Pollution*

August 18, 2011

MR DOUG HARRIS  
ENGINEERING MANAGER  
BUILDING MATERIALS CORPORATION OF AMERICA  
2600 SINGLETON BLVD  
DALLAS TX 75212-3738

Re: Permit Alteration  
Permit Number: 7711A  
Asphalt Roofing Production Facility  
Dallas, Dallas County  
Regulated Entity Number: RN100788959  
Customer Reference Number: CN602717464  
Account Number: DB-0378-S

Dear Mr. Harris:

This is in response to your letter received May 5, 2011, requesting alteration of the representations of the above-referenced permit. We understand that you propose to alter representations of site wide modeling performed as part of the December 2008 permit amendment to reflect the installation of two low NOx burners on units which are authorized separately under Permit By Rule. We also understand that these new burners would maintain the original stack heights of the units, rather than the height proposed in the modeling submitted for the amendment.

As indicated in Title 30 Texas Administrative Code § 116.116(c) [30 TAC § 116.116(c)], and based on our review, Permit Number 7711A is altered. Please attach this letter to your permit.

No planned maintenance, startup, and shutdown emissions have been reviewed or represented in this application and none are authorized by this permit.

As of July 1, 2008, all analytical data generated by a mobile or stationary laboratory in support of compliance with air permits must be obtained from a NELAC (National Environmental Laboratory Accreditation Conference) accredited laboratory under the Texas Laboratory Accreditation Program or meet one of several exemptions. Specific information concerning which laboratories must be accredited and which are exempt may be found in 30 TAC § 25.4 and § 25.6.

Mr. Doug Harris

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August 18, 2011

Re: Permit Number: 7711A

For additional information regarding the laboratory accreditation program and a list of accredited laboratories and their fields of accreditation, please see the following Web site:

[www.tceq.texas.gov/compliance/compliance\\_support/qa/env\\_lab\\_accreditation.html](http://www.tceq.texas.gov/compliance/compliance_support/qa/env_lab_accreditation.html)

For questions regarding the accreditation program, you may contact the Texas Laboratory Accreditation Program at (512) 239-3754 or by e-mail at [labprgms@tceq.texas.gov](mailto:labprgms@tceq.texas.gov).

Your cooperation in this matter is appreciated. If you need further information or have any questions, please contact Mr. Joel Stanford at (512) 239-0270 or write to the Texas Commission on Environmental Quality, Office of Air, Air Permits Division, MC-163, P.O. Box 13087, Austin, Texas 78711-3087.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality.

Sincerely,



For  
Michael Wilson, P.E., Director  
Air Permits Division  
Office of Air  
Texas Commission on Environmental Quality

MPW/JS/js

Enclosure

cc: Section Manager, Air Pollution Control Program, City of Dallas Environmental and Health  
Services, Dallas  
Air Section Manager, Region 4 - Fort Worth

Project Number: 165555

**Permit Alteration  
Source Analysis & Technical Review**

Company	Building Materials Corporation of America	Permit Number	7711A
City	Dallas	Project Number	165555
County	Dallas	Account Number	DB-0378-S
Project Type	Revision	Regulated Entity Number	RN100788959
Project Reviewer	Mr. Joel Stanford	Customer Reference Number	CN602717464
Site Name	Asphalt Roofing Production Facility		

**Project Overview**



The company has proposed to alter representations of site wide modeling performed as part of the December 2008 permit amendment to reflect the installation of two low NOx burners on units which are authorized separately under Permit By Rule. The company has also proposed that these new burners would maintain the original stack heights of the units, rather than the height proposed in the modeling submitted for the amendment. The stack heights were originally proposed to be increased in order to meet the 1 hour NAAQS for NO<sub>2</sub>. Modeling has been provided which indicates that the site wide NO<sub>2</sub> concentrations would be lower when utilizing low NOx burners rather than the elevated stacks. The company has also provided a Certification of Emission Limits for these units to TCEQ alongside this alteration application.

**Impacts Evaluation - 30 TAC 116.111(a)(2)(J)**

Was modeling conducted?	Yes	Type of Modeling:	Refined - AERMOD
Will GLC of any air contaminant cause violation of NAAQS?			No

**Summary of Modeling Results**

The modeling results were audited by TCEQ's ADMT and deemed acceptable. The original 1 hour site wide predicted concentration modeled with the previously proposed higher stacks was 58.43 µg/m<sup>3</sup>. The revised predicted concentration utilizing low NOx burners was 56.49 µg/m<sup>3</sup>.

	8/12/10		8/15/11
Project Reviewer	Date	Team Leader/Section Manager/Backup	Date

April 7, 2011

Mr. Joel Stanford  
Texas Commission on Environmental Quality  
Air Permits Initial Review Team (APIRT)  
12100 Park 35 Circle, Mail Code 163  
Austin, Texas 78753

**RECEIVED**

**APR 11 2011**

**AIR PERMITS DIVISION**

**APIRT**  
**MAY 05 2011**

*Re: TCEQ Permit No. 7711A Alteration*

*Building Materials Corporation of America. – Dallas Plant – Dallas County  
TCEQ Account No. DB-0378-S, CN 602717464, RN 100788959*

Dear Mr. Stanford:

Building Materials Corporation of America doing business as GAF Materials Corporation (GAF) owns and operates an existing asphalt roofing<sup>2</sup> production facility in Dallas, Texas (Dallas Plant). The Texas Commission on Environmental Quality (TCEQ) Account No. for the Dallas Plant is DB-0378-S. GAF operates under TCEQ Customer Reference Number (CN) 602717464, and the Dallas Plant operates under TCEQ Regulated Entity Number (RN) 100788959.

The Dallas Plant was issued TCEQ Permit No. 7711A (air quality construction permit). As discussed with the TCEQ on January 28, 2011, pursuant to Title 30 of the Texas Administrative Code (30 TAC) Chapter 116.116 *Changes to Facilities* (c)(1), this letter is providing notification to the TCEQ of a reduction in emissions from sources and a change in representation to the modeling analysis submitted in support of the permit amendment application on July 1, 2010.<sup>1</sup> This change in representation does not result in an increase in off-property concentrations, involve a change in permit conditions, or affect facility control equipment performance; therefore, this notification does not require prior approval from the executive director per 30 TAC 116.116(c)(2). Details regarding the permit alteration are provided below.

## 1. BACKGROUND

GAF submitted a New Source Review (NSR) Permit Amendment Application for the GAF Dallas Plant on December 18, 2008. As a part of this permit amendment application, GAF submitted an air dispersion modeling report to the TCEQ on July 1, 2010 demonstrating that

<sup>1</sup> Conference call between TCEQ (Ms. Bonnie Evridge and Mr. Joel Stanford), GAF (Mr. Doug Harris, Mr. Fred Bright, and Mr. Durwin Farlough), Trinity Consultants (Ms. Latha Kambham and Ms. Christine Otto Chambers), and Brown and McCarroll (Mr. Rod Johnson) to discuss two environmentally beneficial projects proposed by GAF.

165555

emissions of nitrogen dioxide (NO<sub>2</sub>) would not cause or contribute to a violation of the NO<sub>2</sub> 1-hour National Ambient Air Quality Standard (NAAQS).<sup>2</sup> The amended NSR Permit was then issued by the TCEQ on August 20, 2010.

In order to demonstrate compliance with the NO<sub>2</sub> 1-hr NAAQS, GAF proposed to increase the stack height on the following Emission Point Numbers (EPNs) to 57 feet from their existing heights as listed in Table 1:

- EPN 8A: Thermal Oxidizer Exhaust thru Waste Heat Boiler Stack
- EPN WHBLR1: Waste Heat Recovery Boiler Natural Gas Burner Side
- EPN HTR7: Asphalt flux heater
- EPN HTR8: Filled coating heat exchanger heater

EPNs 8A and WHBLR1 were authorized under NSR Permit No. 7711A. EPNs HTR7 and HTR8 were authorized under Permit by Rule (PBR) §106.183 *Boilers, Heaters, and Other Combustion Devices* (effective September 4, 2000) without Low NO<sub>x</sub> burners.

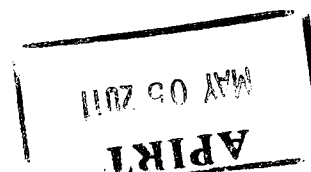
The site-wide NO<sub>2</sub> 1-hr modeling included the heaters (HTR 7 and HTR 8) without Low NO<sub>x</sub> burners. GAF is now proposing to install a Low NO<sub>x</sub> burner on HTR 7 and update the representation of HTR 8 to include a Low NO<sub>x</sub> burner.<sup>3</sup> GAF updated the site-wide NO<sub>2</sub> 1-hr modeling to reflect the reduced emissions from the Low NO<sub>x</sub> burners. By committing to Low NO<sub>x</sub> burners on these two heaters, the site-wide modeling demonstrates compliance with the 1-hr NO<sub>2</sub> standard without requiring GAF to increase the stacks on EPNs 8A, WHBLR1, HTR7, and HTR8 as originally outlined in the modeling report submitted on July 1, 2010. GAF is submitting this permit alteration including the updated NO<sub>2</sub> 1-hr modeling results to notify the TCEQ that the stack heights of EPNs 8A, WHBLR1, HTR7, and HTR8 will be maintained at their current heights as listed in Table 1.

**Table 1. Original Stack Heights for Affected Emission Points**

EPN	Source Description	Stack Height	
		(ft)	(m)
8A	Thermal Oxidizer Exhaust thru Waste Heat Boiler Stack	35.87	10.93 ✓
WHBLR 1	Waste Heat Recovery Boiler Natural Gas Burner Side	36.00	10.97 ✓
HTR7	Asphalt flux heater	17.50	5.33 ✓
HTR8	Filled coating heat exchanger heater	17.50	5.33 ✓

<sup>2</sup> Modeling Letter entitled as "NAAQS NO<sub>2</sub> 1-hour Compliance Demonstration", Building Materials Corporation of America, Dallas Plant, July 1, 2010.

<sup>3</sup> HTR 8 has always included a Low NO<sub>x</sub> burner since installation, but this was not included as a representation in the permit amendment application.



## 2. NO<sub>2</sub> 1-HR MODELING ASSESSMENT

The Significance Analysis conducted in July 2010 was based on a Modeling Significance Level value of 10 µg/m<sup>3</sup>, per the interim guidance provided by the TCEQ. Since the July 1, 2010 submittal, the MSL value was revised to 7.5 µg/m<sup>3</sup>. Using the MSL value of 10 µg/m<sup>3</sup>, the radius of influence (ROI) was determined to be 0.45 km; however, for the Inventory Modeling, GAF included sources within 55 km, rather than 50.45 km, to be conservative.

For a typical modeling assessment, only the project increases are modeled and the modeled concentrations are compared to the MSL. If the MSL is exceeded, inventory modeling (i.e., site-wide emissions from GAF plus inventory sources) is conducted and compared to the NAAQS. Since the change proposed by GAF results in a reduction in emissions, an MSL analysis would not typically be required; however, if GAF assessed the burner change at the time of the permit amendment application in 2008, the overall project would still result in an emissions increase at the plant and would require an MSL analysis and potentially inventory modeling.

Per a conversation with Mr. Dan Jamieson on February 9, 2011, instead of re-conducting the MSL analysis, it is acceptable for GAF to bypass this step and proceed directly with the inventory modeling using the existing stack heights on EPNs 8A, WHBLR1, HTR7, and HTR8, the ROI from the July 2010 assessment, and all receptors rather than just the significant receptors typically determined during an MSL analysis. The latter would cover any additional receptors that might be significant based on the reduced MSL of 7.5 µg/m<sup>3</sup>.<sup>4</sup>

Per conversation with Mr. Joel Stanford on February 10, 2011, in order to demonstrate that the permit alteration does not result in an increase in off-property concentrations of NO<sub>2</sub>, GAF can conduct an assessment for only those sources being impacted by the change. Therefore, GAF conducted a NO<sub>2</sub> NAAQS modeling analysis with the proposed stack height changes using the following two scenarios:<sup>5</sup>

- • Scenario 1 (SCEN\_O): HTR7 and HTR8 without Low NO<sub>x</sub> burners, with stack heights of 57 feet for EPNs 8A, WHBLR1, HTR7, and HTR8 (as represented in the July 1, 2010 modeling report).
- • Scenario 2 (SCEN\_R): HTR7 and HTR8 with Low NO<sub>x</sub> burners, with EPNs 8A, WHBLR1, HTR7, and HTR8 at their existing stack heights as listed in Table 1 above.

A summary of the emission rates and stack heights used for these two modeling scenarios is provided in Table 2.

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<sup>4</sup> Phone call between Ms. Latha Kambham (Trinity Consultants) and Mr. Dan Jamieson (TCEQ) on February 9, 2011.

<sup>5</sup> Per Ms. Latha Kambham's (Trinity Consultants) discussion with Mr. Joel Stanford (TCEQ) on February 10, 2011, GAF can conduct modeling for the affected sources only and demonstrate that the project does not result in an increase in off-property concentration.

**APIRT**  
MAY 05 2011



**TABLE 2. SUMMARY OF CHANGES TO STACK HEIGHTS AND NO<sub>x</sub> HOURLY EMISSION RATES**

EPN	Modeled Source Description	Modeled Release Height (ft)		Modeled Hourly NO <sub>x</sub> Emission Rate (lb/hr)	
		July 2010 <sup>1</sup> (SCEN_O)	Revised <sup>2</sup> (SCEN_R)	July 2010 <sup>1</sup> (SCEN_O)	Revised <sup>3</sup> (SCEN_R)
8A	Thermal Oxidizer Exhaust thru Waste Heat Boiler Stack	57.00	35.87	1.90	1.90
WHBLR 1	Waste Heat Recovery Boiler Natural Gas Burner Side	57.00	36.00	0.47	0.47
HTR7	Asphalt flux heater	57.00	17.50	0.46	0.15
HTR8	Filled coating heat exchanger heater	57.00	17.50	0.46	0.15

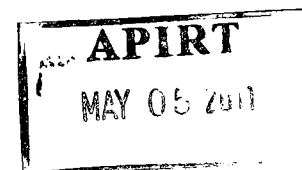
<sup>1</sup> Stack heights and emission rates as represented in the NO<sub>2</sub> 1-hr Modeling Analysis submitted to the TCEQ on July 1, 2010.

<sup>2</sup> Revised stack heights correspond to the existing stack heights as listed in Table 1 above.

<sup>3</sup> Hourly NO<sub>x</sub> emission rates for EPNs HTR7 and HTR8 were revised based on the emission rates for Low NO<sub>x</sub> burners.

The modeling methodology followed the same approach as previously submitted in the July 1, 2010 modeling letter. The July 2010 modeling letter included the information concerning the modeling approach, building wake effects, receptor grids, meteorological data, and inventory sources. The building wake effects (downwash) were re-evaluated for the four EPNs in terms of their proximity to nearby structures using the stack height corresponding to the particular scenario.

As shown in the modeling results summary presented in Table 3, the proposed alteration results in a net decrease in off-property concentration based on the average highest eighth high (H8H) maximum modeled ground-level concentration [GLC<sub>max</sub>] over 5 modeled years. Therefore, the NO<sub>2</sub> 1-hr NAAQS compliance demonstration is complete and GAF can maintain the original stack heights for EPNs 8A, WHBLR1, HTR7, and HTR8.



**APIRT**

**MAY 05 2011**

**TABLE 3. SUMMARY OF NO<sub>2</sub> 1-HOUR MODELING RESULTS:  
PREVIOUSLY MODELED VS. PROPOSED REVISIONS**

Meteorological Year	Maximum GLC <sub>MAX</sub> ( $\mu\text{g}/\text{m}^3$ ) <sup>1</sup>		Average GLC <sub>MAX</sub> Over 5 Years ( $\mu\text{g}/\text{m}^3$ )		
	July 2010 (SCEN_O)	Revised (SCEN_R)	July 2010 (SCEN_O)	Revised (SCEN_R)	Net Change (SCEN_R - SCEN_O)
1985	57.64 ✓	54.60 ✓	58.43 ✓	56.49 ✓	-1.94
1987	61.22 ✓	58.11 ✓			
1988	57.06 ✓	56.50 ✓			
1989	60.12 ✓	56.21 ✓			
1990	56.09 ✓	57.03 ✓			

<sup>1</sup> Concentrations correspond to H8H Maximum Ground Level Concentration (GLC<sub>max</sub>).

A revised TCEQ Table 1(a) listing the updated stack heights for the above noted EPNs is provided in Attachment 1 of this letter.

The electronic data files associated with the air dispersion modeling analysis are provided in Attachment 2 (on a CD). This attachment also includes a list of the modeling files provided in the CD.

In addition, a copy of the air dispersion modeling letter submitted on July 1, 2010 is provided in Attachment 3.

### 3. PERMIT ALTERATION REQUIREMENTS

The requirements for a permit alteration are addressed below. The permit alteration requirements found in 30 TAC Section 116.116(c) are included in italics.

*116.116(c)(1) A permit alteration is:*

- (A) a decrease in allowable emissions; or*
- (B) any change from a representation in an application, general condition, or special condition in a permit that does not cause:*
  - (i) a change in the method of control of emissions;*
  - (ii) a change in the character of emissions; or*
  - (iii) an increase in the emission rate of any air contaminant.*

The proposed project results in a decrease in potential emission rates of NO<sub>x</sub> for HTR7 and HTR8. In addition, maintaining EPNs 8A, WHBLR1, HTR7, and HTR8 at their existing stack heights represents a change from the representation in the application (i.e. modeling letter submitted in July 1, 2010). The change



will not require a change to the general or special conditions of TCEQ Permit No. 7711A. The character of emissions will remain the same (i.e., no new air contaminants will be emitted).

- 116.116(c)(2) *Requests for permit alterations that must receive prior approval by the executive director are those that:*
- (A) result in an increase in off-property concentrations of air contaminants;*
  - (B) involve a change in permit conditions; or*
  - (C) affect facility or control equipment performance.*

As presented in the modeling results above, the reduction in allowable emissions and maintaining EPNs 8A, WHBLR1, HTR7, and HTR8 at their original stack heights do not result in an increase in off-property concentrations of air contaminants. Since EPNs HTR7 and HTR8 are authorized under PBR, the proposed project does not involve a change to TCEQ Permit No. 7711A conditions. In addition, the reduction in emission rates will not affect any facility performance. Therefore, this permit alteration does not require prior approval by the executive director.

- 116.116(c)(3) *The executive director shall be notified in writing of all other permit alterations not specified in paragraph (2) of this subsection.*

This letter serves as written notification of the permit alteration to TCEQ Permit No. 7711A.

- 116.116(c)(4) *A request for permit alteration shall include information sufficient to demonstrate that the change does not interfere with the owner or operator's previous demonstrations of compliance with the requirements of §116.111(a)(2)(C) of this title.*

The reduction in emission rates for EPNs HTR7 and HTR8 and maintaining EPNs 8A, WHBLR1, HTR7, and HTR8 at their original stack heights will not interfere with previous demonstrations of compliance with the requirements of 30 TAC 116.111(a)(2)(C) – *Best Available Control Technology*.

- 116.116(c)(5) *Permit alterations are not subject to the requirements of §116.111(a)(2)(C) of this title.*

GAF understands that permit alterations are not subject to the requirements of 30 TAC 116.111(a)(2)(C) – *Best Available Control Technology* of this title.

If you have any questions regarding this submittal, please feel free to call me at (972) 661-8100 or Mr. Doug Harris of GAF at (214) 637-8909.

Mr. Stanford, TCEQ Air Permits Division – Page 7  
April 7, 2011

Sincerely,

TRINITY CONSULTANTS

*Latha Kambham*

Latha Kambham  
Senior Consultant

Attachments

cc: Mr. Tony Walker, TCEQ Regional Office 4  
Mr. Daniel R. Jamieson, TCEQ Air Dispersion Modeling Team  
Mr. David Miller, City of Dallas, Air Pollution Control Program  
Mr. Doug Harris, GAF  
Mr. Fred Bright, GAF  
Mr. David Fuelleman, GAF  
Ms. Christine M. Otto Chambers, Trinity Consultants  
Ms. Jacquie Hui, Trinity Consultants



# Texas Commission on Environmental Quality

## INTEROFFICE MEMORANDUM

To: Joel Stanford  
Mechanical/Agricultural/Construction Section

Date: August 15, 2011

Thru: *DM* Daniel Menendez, Team Leader  
Air Dispersion Modeling Team (ADMT)

From: *JM* Justin Cherry  
ADMT

Subject: Modeling Audit – Building Materials Corporation of America (RN100788959)

- 1.0 Project Identification Information.  
Permit Application Number: 7711A  
NSR Project Number: 165555  
ADMT Project Number: 3521  
NSRP Document Number: 417278  
County: Dallas  
ArcReader Published Map: \\Msgiswrk\APD\MODEL PROJECTS\3521\3521.pmf

Modeling Report: Submitted by Trinity Consultants, April 2011, on behalf of Building Materials Corporation of America. Supplemental information was received August 2011.

- 2.0 Report Summary. The modeling analysis is acceptable. The results are summarized below.

The applicant previously submitted modeling in July 2010, which was subsequently approved by the ADMT (NSR document number 399077). In the previous analysis, the applicant proposed to increase the stack heights on EPNs 8A, WHBLR1, HTR7, and HTR 8 to 57 feet from their existing heights. In addition, EPNs HTR7 and HTR8 were represented without low NO<sub>x</sub> burners. In this analysis, the applicant proposes to include low NO<sub>x</sub> burners for EPNs HTR7 and HTR8 and keep the stacks of the four EPNs mentioned above at their original heights (i.e. not increasing the stacks heights to 57 feet). The applicant's demonstration is to illustrate how these changes would result in a decrease for these four sources when compared to the original site-wide modeling demonstration for 1-hr NO<sub>2</sub>.

Table 1. Modeling Results for Minor NSR NAAQS AOI				
Pollutant	Scenario	Averaging Time	GLCmax (µg/m <sup>3</sup> )	Net Change (µg/m <sup>3</sup> )
NO <sub>2</sub>	Original	1-hr	58.43	-1.94
	Revised		56.49	

The maximum five-year average of the high-eighth-high (H8H) 1-hr average model concentrations was used as the GLCmax for each scenario.

3.0 Land Use. Medium roughness and elevated terrain were used in the modeling analysis. These selections are consistent with the selections made in the July 2010 modeling.

4.0 Modeling Emissions Inventory. The modeled emission point source parameters and rates were consistent with the modeling report. The source characterization used to represent the sources was appropriate.

A  $\text{NO}_x$  to  $\text{NO}_2$  conversion factor was applied to the modeled  $\text{NO}_x$  emission rates. However, using a conversion factor is inconsequential for this analysis since the purpose of the demonstration was to show a decrease in predicted concentrations for the revised sources rather than compare the results to the 1-hr  $\text{NO}_2$  NAAQS standard.

5.0 Building Wake Effects (Downwash). Input data to Building Profile Input Program Prime (Version 04274) are consistent with the plot plan and modeling report.

The buildings were not consistent with the aerial photography. The buildings were shifted approximately 30 meters to the northwest. However, the results should not be significantly affected since the point sources and receptor grid were shifted uniformly, and the source-to-building and source-to-receptor distance relationships are maintained.

6.0 Meteorological Data.  
Surface Station and ID: Dallas, TX (Station #: 3927)  
Upper Air Station and ID: Stephenville, TX (Station #: 13901)  
Meteorological Dataset: 1985, 1987-1990  
Profile Base Elevation: 168 meters

7.0 Receptor Grid. The grid modeled was sufficient in density and spatial coverage to capture representative maximum ground-level concentrations.

8.0 Model Used and Modeling Techniques. AERMOD (Version 09292) was used in a refined screening mode to be consistent with the previous analysis. Significant differences in predicted concentrations between the two model versions are not expected (Versions 09292 and 11103). The most recent version of AERMOD should be used for all future modeling submittals.

05/06/2011 -----NSR IMS - PROJECT RECORD -----

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PROJECT TECH NAME: ASPHALT ROOFING PRODUCTION FACILITY

Assigned Team: MECH/CONST TEAM

STAFF ASSIGNED TO PROJECT:

OBRIEN , BRENDA      - REVIEWR1\_2 -      AP INITIAL REVIEW  
TEAM LEADER , M/C      - REVIEW ENG -      MECH/CONST TEAM

CUSTOMER INFORMATION (OWNER/OPERATOR DATA)

ISSUED TO: BUILDING MATERIALS CORPORATION OF AMERICA  
COMPANY NAME: Building Materials Corporation of America  
CUSTOMER REFERENCE NUMBER: CN602717464

REGULATED ENTITY/SITE INFORMATION

REGULATED ENTITY NUMBER: RN100788959      ACCOUNT: DB0378S  
PERMIT NAME: GAF MATERIALS

REGULATED ENTITY LOCATION: 2600 SINGLETON BLVD  
REGION 04 - DFW METROPLEX      NEAR CITY: DALLAS      COUNTY: DALLAS

CONTACT DATA

CONTACT NAME: MR DOUG HARRIS      CONTACT ROLE: RESPONSIBLE OFFICIAL  
JOB TITLE: ENGINEERING MANAGER      ORGANIZATION: BUILDING MATERIALS CORPORATION OF AMERICA  
MAILING ADDRESS: 2600 SINGLETON BLVD , DALLAS, TX, 75212-3738  
PHONE: (214) 637-8909 Ext: 0

PROJECT NOTES:

05/06/2011      DFC 05/06/2011

PERMIT NOTES:

12/09/2009      INCORPORATE STANDARD PERMIT NO. 91414 AT NEXT AMEND. OR RENEWAL

TRACKING ELEMENTS:

TE Name	Start Date	Complete Date
APIRT RECEIVED PROJECT (DATE)	05/05/2011	
APIRT TRANSFERRED PROJECT TO TECHNICAL STAFF (DATE)	05/06/2011	
COMPLIANCE HISTORY REVIEW COMPLETED (DATE)		
DEFICIENCY CYCLE		
DRAFT PERMIT RFC SENT TO REGION (DATE)		
EMISSIONS MODELING CYCLE DONE BY APPLICANT		
FINAL PACKAGE REWORK CYCLE		
FINAL PACKAGE TO SECTION MANAGER FOR REVIEW (DATE)		
FINAL PACKAGE TO TEAM LEADER OR SUPERVISOR FOR REVIEW (DATE)		
MODELING AUDIT CYCLE		
PROJECT RECEIVED BY ENGINEER (DATE)		
PROJECT RECEIVED BY TECHNICAL STAFF FROM APIRT (DATE)		
WORKING DRAFT PERMIT REVIEW CYCLE		
WPO FINAL PACKAGE CYCLE		

Permit Unit Type:

**ATTACHMENT 1. REVISED TABLE 1(A)**

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# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

## Table 1(a) Emission Point Summary

<b>Date</b>	4/7/2011	<b>Permit No.:</b>	7711A	<b>Regulated Entity No.:</b>	100788959
<b>Area Name:</b>	GAF Materials Corporation, Dallas Facility			<b>Customer Reference No.:</b>	602717464

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this table

AIR CONTAMINANT DATA					
1. Emission Point			2. Component of Air Contaminant Name	3. Air Contaminant Emission Rate	
(A) EPN	(B) FIN	(C) NAME		Pounds per Hour (A)	TPY (B)
HTR3	HTR3	T-1 Laminating Adhesive Bulk Storage Tank Heater Vent	NO <sub>x</sub>	0.05	0.22
			SO <sub>2</sub>	0.01	0.01
			PM <sub>10</sub>	0.01	0.02
			CO	0.04	0.18
			VOC	0.01	0.01
HTR4	HTR4	T-2 Laminating Adhesive Bulk Storage Tank Heater Vent	NO <sub>x</sub>	0.05	0.22
			SO <sub>2</sub>	0.01	0.01
			PM <sub>10</sub>	0.01	0.02
			CO	0.04	0.18
			VOC	0.01	0.01
HTR5	HTR5	Asphalt Heater for T-14 and T-15 coating Asphalt Storage and Coating Feed Loop	NO <sub>x</sub>	0.10	0.43
			SO <sub>2</sub>	0.01	0.01
			PM <sub>10</sub>	0.01	0.03
			CO	0.08	0.36
			VOC	0.01	0.02
BLR5	BLR5	Stand-by Boiler Vent	NO <sub>x</sub>	3.73	0.90
			SO <sub>2</sub>	0.02	<0.01
			PM <sub>10</sub>	0.28	0.07
			CO	3.13	0.75
			VOC	0.20	0.05

TCEQ-10153 [Revised 04/08] Table 1(a)

This form is for use by sources subject to air quality permit requirements and may be revised periodically. [APDG 5178 v5]

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**

**Table 1(a) Emission Point Summary**

<b>Date</b>	4/7/2011	<b>Permit No.:</b>	7711A	<b>Regulated Entity No.:</b>	100788959
<b>Area Name:</b>	GAF Materials Corporation, Dallas Facility			<b>Customer Reference No.:</b>	602717464

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this table

<b>AIR CONTAMINANT DATA</b>					
<b>1. Emission Point</b>			<b>2. Component of Air Contaminant Name</b>	<b>3. Air Contaminant Emission Rate</b>	
<b>(A) EPN</b>	<b>(B) FIN</b>	<b>(C) NAME</b>		<b>Pounds per Hour (A)</b>	<b>TPY (B)</b>
8 8A	TO1 8A	Thermal Oxidizer Exhaust Stack	NO <sub>x</sub>	1.90	8.31
		Thermal Oxidizer Exhaust thru Waste Heat Boiler Stack	SO <sub>2</sub>	29.35	128.55
			PM <sub>10</sub>	2.62	11.46
			CO	11.34	49.65
			VOC	0.09	0.37
WHBLR 1	WHBLR 1	Waste Heat Recovery Boiler Natural Gas Burner Side	NO <sub>x</sub>	0.47	2.06
			SO <sub>2</sub>	0.01	0.04
			PM <sub>10</sub>	0.11	0.48
			CO	1.24	5.43
			VOC	0.08	0.35
CFL	CFL	Coalescing Filter Mist Elimination Systems (to control emissions from the Line 1 and Line 3 Asphalt Coaters) with ESP as backup	PM <sub>10</sub>	0.63	2.76
			VOC	5.76	25.23
1-1	1-1	Line 1 Stabilizer Storage and Heater Baghouse Stk	PM <sub>10</sub>	0.23	1.01
1-3	1-3	Line 1 Stabilizer Use Bin Baghouse Stack	PM <sub>10</sub>	0.03	0.13

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**

**Table 1(a) Emission Point Summary**

<b>Date</b>	4/7/2011	<b>Permit No.:</b>	7711A	<b>Regulated Entity No.:</b>	100788959
<b>Area Name:</b>	GAF Materials Corporation, Dallas Facility			<b>Customer Reference No.:</b>	602717464

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this table

<b>AIR CONTAMINANT DATA</b>					
<b>1. Emission Point</b>			<b>2. Component of Air Contaminant Name</b>	<b>3. Air Contaminant Emission Rate</b>	
<b>(A) EPN</b>	<b>(B) FIN</b>	<b>(C) NAME</b>		<b>Pounds per Hour (A)</b>	<b>TPY (B)</b>
1-4	1-4	Line 1 Surfacing Section Dust Collector No. 1 Stack	PM <sub>10</sub>	0.59	2.58
1-5	1-5	Line 1 Surfacing Section Dust Collector No. 2 Stack	PM <sub>10</sub>	0.59	2.58
1-6	1-6	Line 1 Surfacing Section Dust Collector No. 3 Stack	PM <sub>10</sub>	0.59	2.58
COOL1 (total 3 stks)	COOL1 (total 3 stks)	Line 1 Cooling Section	PM <sub>10</sub>	8.52	37.30
			VOC	1.65	7.23
25	25	Sand Application Baghouse	PM <sub>10</sub>	1.50	6.57
26A	26A	Stabilizer Storage Baghouse A	PM <sub>10</sub>	0.15	0.70
26B	26B	Stabilizer Storage Baghouse B	PM <sub>10</sub>	0.29	1.26
27	27	Stabilizer Heater Baghouse	PM <sub>10</sub>	0.09	0.40
28	28	Asphalt Heater	NO <sub>x</sub>	0.59	2.60
			SO <sub>2</sub>	0.004	0.02
			PM <sub>10</sub>	0.04	0.20
			CO	0.50	2.20
			VOC	0.03	0.10
FUG1	FUG1	Plantwide Fugitive Emissions	PM <sub>10</sub>	0.91	3.97
			VOC	0.43	1.88

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**

**Table 1(a) Emission Point Summary**

<b>Date</b>	4/7/2011	<b>Permit No.:</b>	7711A	<b>Regulated Entity No.:</b>	100788959
<b>Area Name:</b>	GAF Materials Corporation, Dallas Facility			<b>Customer Reference No.:</b>	602717464

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this table

<b>AIR CONTAMINANT DATA</b>					
<b>1. Emission Point</b>			<b>2. Component of Air Contaminant Name</b>	<b>3. Air Contaminant Emission Rate</b>	
<b>(A) EPN</b>	<b>(B) FIN</b>	<b>(C) NAME</b>		<b>Pounds per Hour (A)</b>	<b>TPY (B)</b>
COOL3 (total 3 stks)	COOL3 (total 3 stks)	Line 3 Cooling Section	PM <sub>10</sub>	6.74	29.52
			VOC	2.76	12.09
HTR6	HTR6	Line 3 Stabilizer Thermal Fluid Heater Vent	NO <sub>x</sub>	0.60	2.58
			SO <sub>2</sub>	0.01	0.02
			PM <sub>10</sub>	0.05	0.20
			CO	0.49	2.16
			VOC	0.03	0.14

EPN = Emission Point Number

FIN = Facility Identification Number

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**  
**Table 1(a) Emission Point Summary**

<b>Date</b>	4/7/2011	<b>Permit No.:</b>	7711A	<b>Regulated Entity No.:</b>	100788959
<b>Area Name:</b>	GAF Materials Corporation, Dallas Facility			<b>Customer Reference No.:</b>	602717464

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this table

AIR CONTAMINANT DATA			EMISSION POINT DISCHARGE PARAMETERS										
1. Emission Point			4. UTM Coordinates of Emission Point			5. Building Height (Feet)	6. Height Above Ground (Feet)	7. Stack Exit Data			8. Fugitives		
(A) EPN	(B) FIN	(C) NAME	Zone	East (Meters)	North (Meters)			(A) Diameter (Feet)	(B) Velocity (fps)	(C) Temperature (°F)	(A) Length (F)	(B) Width (Ft)	(C) Axis Degrees
HTR3	HTR3	T-1 Laminating Adhesive Bulk Storage Tank Heater Vent	14	700,204	3,628,338		22.04	1.00	18.00	200			
HTR4	HTR4	T-2 Laminating Adhesive Bulk Storage Tank Heater Vent	14	700,204	3,628,334		22.04	1.00	18.00	200			
HTR5	HTR5	Asphalt Heater for T-14 and T-15 coating Asphalt Storage and Coating Feed Loop	14	700,217	3,628,331		29.68	2.00	30.00	570			
BLR5	BLR5	Stand-by Boiler Vent	14	700,217	3,628,372		31.79	2.04	50.00	1000			
8	TO1	Thermal Oxidizer Exhaust Stack	14	700,217	3,628,363		36.99	2.03	182.24	1460			
8A	8A	Thermal Oxidizer Exhaust thru Waste Heat Boiler Stack	14	700,218	3,628,365		35.87	3.94	48.38	583			
WHBLR 1	WHBLR 1	Waste Heat Recovery Boiler Natural Gas Burner Side	14	700,218	3,628,366		36	2.00	14.73	410			
CFL	CFL	Coalescing Filter Mist Elimination Systems (to control emissions from the Line 1 and Line 3 Asphalt Coaters) with ESP as backup	14	700,178	3,628,333		40.77	2.40	32.14	103			
1-1	1-1	Line 1 Stabilizer Storage and Heater Baghouse Sk	14	700,151	3,628,387		44.1	0.80	92.00	96			
1-3	1-3	Line 1 Stabilizer Use Bin Baghouse Stack	14	700,157	3,628,355		43.96	0.84	92.00	200			
1-4	1-4	Line 1 Surfacing Section Dust Collector No. 1 Stack	14	700,121	3,628,341		23.53	2.21	123.00	76			
1-5	1-5	Line 1 Surfacing Section Dust Collector No. 2 Stack	14	700,125	3,628,341		23.53	2.21	92.00	76			
1-6	1-6	Line 1 Surfacing Section Dust Collector No. 3 Stack	14	700,128	3,628,341		23.53	2.21	123.00	76			
COOL1 (total 3 stks)	COOL1 (total 3 stks)	Line 1 Cooling Section	14	700,143	3,628,349		64.27	5.00	32.00	84			
25	25	Sand Application Baghouse	14	700,190	3,628,305		61.23	3.90	65.00	100			
26A	26A	Stabilizer Storage Baghouse A	14	700,214	3,628,310		73.35	0.65	59.00	Ambient			
26B	26B	Stabilizer Storage Baghouse B	14	700,221	3,628,309		73.35	0.65	59.00	Ambient			
27	27	Stabilizer Heater Baghouse	14	700,190	3,628,315		37.08	1.32	35.00	200			
28	28	Asphalt Heater	14	700,242	3,628,344		68.63	2.00	30.00	700			
FUG1	FUG1	Plantwide Fugitive Emissions	14	700,160	3,628,400		--	--	--	--	1048.56	800.52	--
COOL3 (total 3 stks)	COOL3 (total 3 stks)	Line 3 Cooling Section	14	700,180	3,628,310		73	5.00	32.00	84			
HTR6	HTR6	Line 3 Stabilizer Thermal Fluid Heater Vent	14	700,152	3,628,368		39.13	3.00	30.00	700			

EPN = Emission Point Number

FIN = Facility Identification Number

TCEQ-10153 [Revised 04/08] Table 1(a)

This form is for use by sources subject to air quality permit requirements and may be revised periodically. [APDG 5178 v5]

## ATTACHMENT 2. ELECTRONIC FILES

The electronic data files are provided at the end of this attachment (on a CD), which include the following:

- All AERMOD input and output files used for the NO<sub>2</sub> (1-hour) NAAQS analysis
- Meteorological files
- BPIPP input and output data files

The following tables summarize the electronic files included in the CD.

**TABLE 1. AERMOD INPUT AND OUTPUT DATA FILE DESCRIPTIONS FOR THE NO<sub>2</sub> 1-HOUR NAAQS MODELING ANALYSIS**

Modeling	File Name	Associated Files	File Description	Receptor Grid
Net Impact Analysis	NNB85-90.zip	Input Files (*.ami) Output Files (*.aml)	Net Impact Analysis for 1985, 1987, 1988, 1989, and 1990 meteorological years	Significance Receptors (from July 1, 2010 modeling report)

**TABLE 2. METEOROLOGICAL DATA FILES USED FOR THE AERMOD MODELING ANALYSIS**

File Name	Description
DFWS85BM.SFC DFWS87BM.SFC DFWS88BM.SFC DFWS89BM.SFC DFWS90BM.SFC	Surface meteorological files
DFWS85BM.PFL DFWS87BM.PFL DFWS88BM.PFL DFWS89BM.PFL DFWS90BM.PFL	Upper air meteorological files

**TABLE 3. DOWNWASH FILES USED FOR THE MODELING ANALYSIS**

Input File Name	Output File Name
Bpip input file	Bpip output file      Bpip summary file

**ATTACHMENT 3. COPY OF JULY 1, 2010 MODELING ANALYSIS REPORT**

July 1, 2010

Mr. Daniel R. Jamieson  
Air Dispersion Modeling Team  
Texas Commission on Environmental Quality  
12100 Park 35 Circle, Mail Code 163  
Austin, TX 78753

Re: *NAAQS NO<sub>2</sub> 1-hour Compliance Demonstration*  
*Building Materials Corporation of America – Dallas Plant – Dallas County*  
*TCEQ Account No. DB-0378-S,*  
*TCEQ Customer Number (CN) 602717464, Regulated Entity Number (RN) 100788959*

Dear Mr. Jamieson:

Building Materials Corporation of America doing business as GAF Materials Corporation (GAF) owns and operates an asphalt roofing production facility located in Dallas, Texas (Dallas Plant). The Dallas Plant submitted a permit amendment application (TCEQ Permit No. 7711A) to the Texas Commission of Environmental Quality (TCEQ) on December 18, 2008 (hereby referred as "2008 NSR permit amendment application"). As a part of this permit amendment application, GAF submitted an air dispersion modeling report on May 5, 2009 (hereby referred as "2009 air dispersion modeling submittal"). On May 11, 2010, TCEQ requested an air dispersion modeling analysis to demonstrate that emissions of nitrogen dioxide (NO<sub>2</sub>) would not cause or contribute to a violation of the newly promulgated NO<sub>2</sub> 1-hour National Ambient Air Quality Standard (NAAQS).<sup>1,2</sup>

A memorandum summarizing the proposed modeling approach, which is followed in this modeling analysis, was submitted to the TCEQ via email on May 19, 2010.<sup>3</sup> The air dispersion modeling approach was discussed with the TCEQ via a conference call on May 20, 2010 with a summary of the call submitted to all attendees later that afternoon.<sup>4,5</sup> GAF conducted the NO<sub>2</sub> 1-hour NAAQS modeling analysis, based on the guidance received from the TCEQ during the conference call on May 20, 2010, and

<sup>1</sup> Per email from Mr. Javier Galvan (TCEQ) to Ms. Latha Kambham (Trinity Consultants) on May 11, 2010.

<sup>2</sup> The new NO<sub>2</sub> 1-hour NAAQS was published in the Federal Register (75 FR 6474) on February 9, 2010, and went into effect on April 12, 2010.

<sup>3</sup> Proposed modeling approach memo submitted to Mr. Daniel Jamieson (TCEQ) via email from Ms. Latha Kambham (Trinity Consultants) on May 19, 2010.

<sup>4</sup> Conference call regarding proposed NO<sub>2</sub> 1-hr modeling approach. Attendees: Mr. Daniel Jamieson and Mr. Javier Galvan (TCEQ), Mr. Doug Harris and Mr. Fred Bright (GAF), Mr. Rodman Johnson (Brown McCarroll), and Ms. Christine Chambers and Ms. Latha Kambham (Trinity Consultants).

<sup>5</sup> Approved modeling approach memo submitted to Mr. Daniel Jamieson (TCEQ) via email from Ms. Latha Kambham (Trinity Consultants) on May 20, 2010.



subsequent guidance received via emails from the TCEQ.<sup>6</sup> The modeling approach used for the analysis and the modeling results are provided in this letter.

For the NO<sub>2</sub> 1-hour NAAQS compliance demonstration, GAF used the same approach for the modeled source parameters, building wake effects, receptor grids, and meteorological data as detailed in the May 2009 air dispersion modeling report, with the following updates:

- Stack height for the following Emission Point Numbers (EPNs) were updated to 57 feet:
  - EPN 8A: Thermal Oxidizer Exhaust thru Waste Heat Boiler Stack
  - EPN WHBLR1: Waste Heat Recovery Boiler Natural Gas Burner Side
  - EPN HTR7: Asphalt flux heater
  - EPN HTR8: Filled coating heat exchanger heater

Due to the updates to the stack heights for the above mentioned sources, the building wake effects (downwash) were re-evaluated in terms of their proximity to nearby structures.

- The most current version of the AERMOD terrain preprocessor (AERMAP version 09040) was used to update the terrain elevations for the sources, receptors, hill heights for receptors, and buildings.
- The most current version of the AERMOD model (version 09292) was used to obtain the air quality modeling results.

As noted, the modeling was otherwise conducted as per the previously submitted May 2009 report. Please refer to that report for information concerning all other modeled source parameters, building wake effects, receptor grids, and meteorological data. A revised TCEQ Table 1(a) listing the updated stack heights for the above noted EPNs is provided in Attachment 1 of this letter. The specific modeling approach that was used in the NAAQS Analysis for the NO<sub>2</sub> 1-hour modeling is provided below.

## **1. AIR QUALITY DISPERSION MODELING APPROACH**

### **1.1 SIGNIFICANCE ANALYSIS**

The Significance Analysis considers the emissions associated with only the proposed project to determine whether it will have a significant impact upon the surrounding area. As stipulated in the 2008 NSR permit amendment application, there are three sources that result in an emissions increase of nitrogen oxides (NO<sub>x</sub>). Table 1 below lists these sources and the emission rates. The emission increases were

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<sup>6</sup> Email communications between Mr. Daniel Jamieson (TCEQ) and Ms. Latha Kambham (Trinity Consultants) on May 24, 2010 and June 2, 2010.

used in the NO<sub>2</sub> (1-hour) Significance Analysis. Per the Ambient Ratio Method, the NO<sub>x</sub> emissions were multiplied by 0.75 to convert to NO<sub>2</sub> emission rates for air dispersion modeling purposes.<sup>7</sup>

**TABLE 1. EMISSION SOURCES AND NO<sub>x</sub> EMISSION RATES FOR SIGNIFICANCE ANALYSIS**

EPN	Source Description	Currently Permitted Emission Rate (lb/hr)	Proposed Allowable Emission Rate (lb/hr)	Increase in Emission Rate (lb/hr)
8	Thermal Oxidizer Exhaust Stack	0.72	1.90	1.18
8A	Thermal Oxidizer Exhaust thru Waste Heat Boiler Stack			
WHBLR1	Waste Heat Recovery Boiler Natural Gas Burner Side	--	0.47	0.47

The air quality dispersion modeling analysis was conducted with 5 years of meteorological data. The meteorological data for Dallas County was obtained from the TCEQ's website for 1985, 1987, 1988, 1989, and 1990.<sup>8</sup> In the Significance Analysis, the highest first high (H1H) maximum modeled ground-level concentration (GLC<sub>max</sub>) of NO<sub>2</sub> was compared to the interim modeling significance level (MSL) of 10 µg/m<sup>3</sup>.<sup>9</sup> Similar to the 2009 air dispersion modeling submittal (discussed in Section 6.1.3 of the modeling report), the following source group scenarios were modeled in each of the modeling analyses presented in this letter.

**TABLE 2. SOURCE GROUP SCENARIOS**

Source Group	Source Group Description
Scenario 1	EPN 8A with all other EPNs <sup>1</sup>
Scenario 2	EPN 8 with all other EPNs <sup>1</sup>

<sup>1</sup> When EPN 8A is included in the source group, EPN 8 is excluded and vice versa. For the Significance Analysis, the only other EPN modeled was WHBLR1 as outlined in Table 1.

A zip folder containing the electronic copies of the modeling files used in the Significance Analysis is provided with this submittal. Based on the Significance Analysis modeling results, the H1H GLC<sub>max</sub> for NO<sub>2</sub> exceeds the applicable MSL. Therefore, a Full Impact Analysis was conducted as explained below.

## 1.2 FULL IMPACT ANALYSIS – SCREENING ANALYSIS

During the conference call with TCEQ on May 20, 2010, a Full Impact Analysis - Screening Analysis was discussed where the screening background concentration would be added to the results of the

<sup>7</sup> Per EPA discussions during the EPA Regional/State/Local Dispersion Modelers Workshop, Portland, OR, May 10-13, 2010.

<sup>8</sup> <ftp://ftp.tceq.state.tx.us/pub/OPRR/APD/AERMET/AERMETv06341/AERMETDataSetsByCounty/>

<sup>9</sup> Per the interim guidance provided by EPA during the EPA Regional/State/Local Dispersion Modelers Workshop, Portland, OR, May 10-13, 2010.

Significance Analysis and compared to 90% of the NAAQS. GAF did not pursue the use of this approach. As such, a Full Impact Analysis – Inventory modeling analysis was performed.

### 1.3 FULL IMPACT ANALYSIS – INVENTORY MODELING

As a first step in the Full Impact Analysis, the radius of impact (ROI) was determined. The largest ROI among all five modeled years was determined as 0.46 km based on the significance modeling analysis results. The current off-site inventories of maximum allowable emission rates for industrial sources were obtained from the TCEQ Point Source Data Base (PSDB) for use in the NAAQS analysis.<sup>10</sup> Per guidance from the TCEQ, the primary search option was selected for the request of the TCEQ PSDB.<sup>11</sup> For this analysis, a conservative (i.e., larger than required) area of impact (AOI) with a radius of 55 km was used in the PSDB inventory retrieval. The TCEQ PSDB inventories for NO<sub>x</sub> obtained from TCEQ are included in electronic format with this submittal. The modeling approach for the TCEQ-PSDB is consistent with the 2009 air dispersion modeling submittal (discussed in the Section 6.2 of the modeling report).

Additionally, GAF identified discrepancies between the New Source Review (NSR) authorizations and the TCEQ PSDB for “Americans Airlines Inc” and “DSI Transport Inc” emissions sources. Therefore, NSR authorizations available through TCEQ’s remote document server and the TCEQ Austin File Room were reviewed to ensure that emission rates provided in the PSDB were accurate for sources located at “Americans Airlines Inc” and “DSI Transport Inc” facilities. Upon reviewing these files, the TCEQ PSDB inventory was updated as outlined in Attachment 3.

For the Full Impact Analysis, all permitted sources at the GAF Dallas Plant that emit NO<sub>x</sub> [except EPN BLR5 (Standby Boiler)] were modeled with their potential-to-emit (PTE) emissions along with the off-property inventory sources.<sup>12</sup> The permit allowable emission rates for NO<sub>x</sub> were multiplied by 0.75 to convert to NO<sub>2</sub> emission rates for air dispersion modeling purposes, per the Ambient Ratio Method. A table summarizing the modeled source ID, description, source representation, and associated source parameters for all modeled emission sources that emit NO<sub>x</sub> at the GAF Dallas Plant is included in Attachment 2.

In the Full Impact Analysis, only those receptors with modeled impacts greater than the MSL in the Significance Analysis are modeled. The form of the new NO<sub>2</sub> 1-hour NAAQS is “the 3-year average of the 98<sup>th</sup> percentile of the annual distribution of daily maximum 1-hour concentrations”.<sup>13</sup> In the Full Impact Analysis, the highest eighth high (H8H) GLC<sub>max</sub> was obtained for each of the five modeled meteorological years. The average of the H8H GLC<sub>max</sub> was then added to the background concentration

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<sup>10</sup> PSDB retrieval was obtained via email from Mr. Robert Organ (TCEQ) to Ms. Latha Kambham (Trinity Consultants) on May 20, 2010.

<sup>11</sup> Per guidance provided by Mr. Dan Schultz (TCEQ) to Ms. Jacquie Hui (Trinity Consultants), via telephone conversation on May 20, 2010.

<sup>12</sup> EPN BLR5 is a standby boiler, authorized to operate 500 hours per year. This boiler will only be operated when the Thermal Oxidizer and the Waste Heat Boiler units are shut down. Therefore, EPN BLR5 is not included in the modeling analysis.

<sup>13</sup> *Primary National Ambient Air Quality Standards for Nitrogen Dioxide; Final Rule*, Federal Register, Volume 75, No. 26, February 9, 2010, pp 6474-6537.

(discussed in Section 1.4 of this letter) and compared to the NAAQS. If the resulting concentration is below the NAAQS, the demonstration is complete.

#### 1.4 NO<sub>2</sub> (1-HOUR) BACKGROUND CONCENTRATION

The impacts of emissions from the on-property and off-property sources are modeled in the air quality dispersion modeling analysis to demonstrate compliance with the 1-hour NO<sub>2</sub> NAAQS. Modeled ambient air concentrations only reflect the impacts from industrial emission sources. Therefore, to completely assess compliance with the NAAQS, “background” concentrations are typically added to the modeled ground-level concentrations. These background concentrations are representative of emissions from natural sources, nearby emissions sources other than the emission sources under consideration, and unidentified emission sources. The detailed methodology used in determining the NO<sub>2</sub> 1-hour background concentration was provided to the TCEQ via email on May 26, 2010.<sup>14</sup> However, for completeness of the submittal, these details are also included in this letter.

The GAF Dallas Plant is located at 2600 Singleton Blvd, Dallas, Dallas County, Texas. Currently, there are three active State and Local Air Monitoring Systems (SLAMS) monitoring stations for NO<sub>2</sub> located in the Dallas County.<sup>15</sup> A table summarizing the site ID, address, and approximate distance from the GAF Dallas Plant for each of these three monitors is provided below:

TABLE 3. SLAMS LOCATED IN THE DALLAS COUNTY

EPA Site ID	Address	Approximate Distance from GAF Dallas Plant
48-113-0069	1415 Hinton Street, Dallas	3 miles North
48-113-0075	12532 1/2 Nuestra Drive, Dallas	10 miles Northeast
48-113-0087	3277 W. Redbird Lane, Dallas	7 miles South

GAF used the Site ID 48-113-0069 to obtain the NO<sub>2</sub> background concentration based on the following:

- EPA Air Quality System (AQS) provides the highest 1<sup>st</sup> high (H1H), highest 2<sup>nd</sup> high (H2H), and annual NO<sub>2</sub> concentration values for 1998-2008 for the above mentioned monitoring stations. Site ID 48-113-0069 monitored the highest concentration values for H1H, H2H, and annual averaging periods for 8 of the 10 years. Furthermore, the trend in recent years (based on 2007 and 2008 year information) indicates higher monitored values for Site ID 48-113-0069, when compared with the other two monitoring stations.
- This monitor is located at the closest proximity to the GAF Dallas Plant.

Therefore, GAF used this monitor to obtain the NO<sub>2</sub> background concentration for the NO<sub>2</sub> 1-hour NAAQS Analysis.

<sup>14</sup> NO<sub>2</sub> 1-hour background concentration determination method submitted to Mr. Daniel Jamieson (TCEQ) via email from Ms. Latha Kambham (Trinity Consultants) on May 26, 2010.

<sup>15</sup> Information is obtained from EPA Air Database (URL: <http://www.epa.gov/oar/data/geosel.html>)

Per EPA guidance, the background concentration for the NO<sub>2</sub> (1-hour) NAAQS analysis should be calculated as the 3-year average of the 8<sup>th</sup>-highest daily maximum 1-hour concentrations over three years of monitor data.<sup>16</sup> Currently, the EPA Air database does not process the NO<sub>2</sub> monitoring value based on the current form of the standard. Therefore, for determining the background concentration, the hourly NO<sub>2</sub> monitored values for EPA Site ID 48-113-0069 were obtained from the EPA AQS database for the most recent three years (2007-2009).<sup>17</sup> Under this EPA guidance, a day is classified as complete if it has at least 75% of the hourly concentrations recorded (i.e., at least 18 hours per day). A quarter is classified as complete if it has at least 75% of the sampling days with complete data (i.e., at least 67 to 69 depending on the quarter). A year is classified as complete if it has four complete quarters.<sup>18</sup> The obtained hourly values for EPA Site ID 48-113-0069 meet the above completeness criteria for all three years.

The average 98<sup>th</sup>-percentile daily maximum 1-hour concentration at the EPA monitor (Site ID: 48-113-0069) over 2007, 2008, and 2009 is 102.19 µg/m<sup>3</sup> as shown in Table 3 below. This value was used in the 1-hour NO<sub>2</sub> NAAQS compliance demonstration for the GAF Dallas Plant.

**TABLE 4. BACKGROUND CONCENTRATION SUMMARY**

Year	NO <sub>2</sub> Daily Maximum 1-hour Concentration (H8H)	
	(ppm)	(µg/m <sup>3</sup> )
2007	0.056	105.31
2008	0.056	105.31
2009	0.051	95.96
<b>Average</b>	<b>0.054</b>	<b>102.19</b>

A Microsoft (MS) Excel file [GAF Dallas Plant\_NO2 Background Concentration (052510).xlsx], which was used to calculate the background concentration at the EPA monitor (Site ID: 48-113-0069) is included in the electronic submittals. The monitored values are shown in tabs “2007 Monitored Value”, “2008 Monitored Value”, and “2009 Monitored Value” in the MS Excel file. To calculate the background concentration, the 8<sup>th</sup>-highest daily maximum 1-hour concentration was obtained [as shown in tabs “2007-H8H”, “2008-H8H”, and “2009-H8H” in the MS Excel file]. The average 8<sup>th</sup>-highest daily maximum 1-hour concentration was calculated, as provided in the “Summary” tab of this MS Excel file. This value was used as the representative background concentration in the 1-hour NO<sub>2</sub> NAAQS compliance demonstration.

<sup>16</sup> 75 Fed. Reg. 6474, “Primary National Ambient Air Quality Standards for Nitrogen Dioxide: Final Rule” (2010).

<sup>17</sup> <http://www.epa.gov/ttn/airs/airsaqs/detaildata/downloadaqsdata.htm>

<sup>18</sup> 75 Fed. Reg. at 6532.

## **2. MODELING RESULTS**

As discussed in Section 1.3 of this letter, the H8H NO<sub>2</sub> GLC<sub>max</sub> results were obtained at the significant receptors for all five modeled meteorological years. The average of H8H NO<sub>2</sub> GLC<sub>max</sub> was then added to the background concentration and then compared to the NAAQS. A summary of the NAAQS analysis results is presented in Table 5. As shown in Table 5, the total concentration (sum of average H8H GLC<sub>max</sub> and background concentration) is less than the applicable NAAQS. Therefore, the NAAQS compliance demonstration is complete.

**TABLE 5. NAAQS ANALYSIS RESULTS FOR NO<sub>2</sub> (1-HOUR)**

Pollutant	Averaging Period	Emission Source Group <sup>1</sup>	Emission Source Group Description	Meteorological Year	UTM Coordinate		Total Maximum Ground Level Concentration GLC <sub>MAX</sub> <sup>2</sup> (µg/m <sup>3</sup> )	Average of Maximum Ground Level Concentration Over 5 Years (µg/m <sup>3</sup> )	Background Concentration <sup>3</sup> (µg/m <sup>3</sup> )	Average Modeled Concentration + Background Concentration (µg/m <sup>3</sup> )	NAAQS (µg/m <sup>3</sup> )	Less than NAAQS?
					East (m)	North (m)						
NO <sub>2</sub>	1-hour	Scenario 1	8 with all other EPNs	1985	700,265	3,628,237	82.66	83.15	102.19	185.34	188	Yes
				1987	700,265	3,628,237	85.06					
				1988	700,265	3,628,237	79.08					
				1989	700,265	3,628,237	86.17					
				1990	700,265	3,628,237	82.80					
		Scenario 2	8A with all other EPNs	1985	700,265	3,628,237	80.91	81.65		183.84		Yes
				1987	700,265	3,628,237	83.21					
				1988	700,265	3,628,237	78.96					
				1989	700,265	3,628,237	84.39					
				1990	700,265	3,628,237	80.78					

<sup>1</sup> EPN BLR5 is a standby boiler, authorized to operate 500 hours per year. This boiler will only be operated when the Thermal Oxidizer and the Waste Heat Boiler units are shut down. Therefore, EPN BLR5 is not included in the modeling analysis.

<sup>2</sup> Total H8H Maximum Ground Level Concentration (GLC<sub>max</sub>) for the GAF Dallas Plant sources and TCEQ inventory sources obtained from AERMOD (version 09292) for met data years 1985, 1987, 1988, 1989, and 1990.

<sup>3</sup> Three years (2007 - 2009) average of 98<sup>th</sup> percentile of the annual distribution of daily 1-hour maximum concentration at the Dallas, Dallas County, at 1415 Hinton Street (site ID: 481130069).

### 3. ELECTRONIC FILES

The electronic data files are provided in Attachment 4 (on a CD), which include the following:

- All AERMOD input and output files used for the NO<sub>2</sub> (1-hour) analysis
- Meteorological files
- BPIPP input and output data files
- Background concentration calculation spreadsheets
- TCEQ PSDB Retrieval for NO<sub>2</sub>

The following tables summarize the electronic files included in the CD.

**TABLE 6. AERMOD INPUT AND OUTPUT DATA FILE DESCRIPTIONS FOR THE NO<sub>2</sub> 1-HOUR MODELING ANALYSIS**

Modeling	File Name	Associated Files	File Description	Receptor Grid
Significance Analysis	NSS85-90.zip	Input Files (*.ami) Output Files (*.aml) Plot Files (*.plt)	Significance Modeling analysis for 1985, 1987, 1988, 1989, and 1990 meteorological years	Property Line, Tight, Fine, Medium, and Coarse grids, including five sensitive receptor locations
Full Impact Analysis	NNS85-90.zip	Input Files (*.ami) Output Files (*.aml) Plot Files (*.plt)	Full Impact Analysis for 1985, 1987, 1988, 1989, and 1990 meteorological years	Significance Receptors

**TABLE 7. METEOROLOGICAL DATA FILES USED FOR THE AERMOD MODELING ANALYSIS**

File Name	Description
DFWS85BM.SFC DFWS87BM.SFC DFWS88BM.SFC DFWS89BM.SFC DFWS90BM.SFC	Surface meteorological files
DFWS85BM.PFL DFWS87BM.PFL DFWS88BM.PFL DFWS89BM.PFL DFWS90BM.PFL	Upper air meteorological files



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July 1, 2010

**TABLE 8. DOWNWASH FILES USED FOR THE MODELING ANALYSIS**

Input File Name		Output File Name	
Bpip input file		Bpip output file	Bpip summary file

**TABLE 9. OTHER FILES USED FOR THE AIR QUALITY DISPERSION MODELING ANALYSIS**

File Description	File Name
NO2 Background concentration calculations file	GAF Dallas Plant_NO2 Background Concentration (052610).xlsx
TCEQ PSDB Retrieval files	"TCEQ PSDB Retrieval" folder

If you have any questions regarding this submittal, please feel free to call me at (972) 661-8100 or Mr. Doug Harris of GAF at (214) 637-8909.

Sincerely,  
Trinity Consultants



Christine M. Otto Chambers  
Managing Consultant

**Attachments**

cc: Mr. Tony Walker, TCEQ Regional Office 4  
Mr. Javier Galvan, TCEQ Air Permits Division  
Mr. Daniel Menendez, TCEQ Air Dispersion Modeling Team  
Mr. David Miller, City of Dallas, Air Pollution Control Program  
Mr. Doug Harris, GAF  
Mr. Fred Bright, GAF  
Mr. David Fuelleman, GAF

**ATTACHMENT 1. REVISED TABLE 1(A)**

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**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**

**Table 1(a) Emission Point Summary**

<b>Date</b>	7/1/2010	<b>Permit No.:</b>	7711A	<b>Regulated Entity No.:</b>	100788959
<b>Area Name:</b>	GAF Materials Corporation, Dallas Facility			<b>Customer Reference No.:</b>	602717464

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this table

<b>AIR CONTAMINANT DATA</b>					
<b>1. Emission Point</b>			<b>2. Component of Air Contaminant Name</b>	<b>3. Air Contaminant Emission Rate</b>	
<b>(A) EPN</b>	<b>(B) FIN</b>	<b>(C) NAME</b>		<b>Pounds per Hour (A)</b>	<b>TPY (B)</b>
HTR3	HTR3	T-1 Laminating Adhesive Bulk Storage Tank Heater Vent	NO <sub>x</sub>	0.05	0.22
			SO <sub>2</sub>	0.01	0.01
			PM <sub>10</sub>	0.01	0.02
			CO	0.04	0.18
			VOC	0.01	0.01
HTR4	HTR4	T-2 Laminating Adhesive Bulk Storage Tank Heater Vent	NO <sub>x</sub>	0.05	0.22
			SO <sub>2</sub>	0.01	0.01
			PM <sub>10</sub>	0.01	0.02
			CO	0.04	0.18
			VOC	0.01	0.01
HTR5	HTR5	Asphalt Heater for T-14 and T-15 coating Asphalt Storage and Coating Feed Loop	NO <sub>x</sub>	0.10	0.43
			SO <sub>2</sub>	0.01	0.01
			PM <sub>10</sub>	0.01	0.03
			CO	0.08	0.36
			VOC	0.01	0.02
BLR5	BLR5	Stand-by Boiler Vent	NO <sub>x</sub>	3.73	0.90
			SO <sub>2</sub>	0.02	<0.01
			PM <sub>10</sub>	0.28	0.07
			CO	3.13	0.75
			VOC	0.20	0.05

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**

**Table 1(a) Emission Point Summary**

<b>Date</b>	7/1/2010	<b>Permit No.:</b>	7711A	<b>Regulated Entity No.:</b>	100788959
<b>Area Name:</b>	GAF Materials Corporation, Dallas Facility			<b>Customer Reference No.:</b>	602717464

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this table

<b>AIR CONTAMINANT DATA</b>					
<b>1. Emission Point</b>			<b>2. Component of Air Contaminant Name</b>	<b>3. Air Contaminant Emission Rate</b>	
<b>(A) EPN</b>	<b>(B) FIN</b>	<b>(C) NAME</b>		<b>Pounds per Hour (A)</b>	<b>TPY (B)</b>
8 8A	TO1 8A	Thermal Oxidizer Exhaust Stack	NO <sub>x</sub>	1.90	8.31
		Thermal Oxidizer Exhaust thru Waste Heat Boiler Stack	SO <sub>2</sub>	29.35	128.55
			PM <sub>10</sub>	2.62	11.46
			CO	11.34	49.65
			VOC	0.09	0.37
WHBLR 1	WHBLR 1	Waste Heat Recovery Boiler Natural Gas Burner Side	NO <sub>x</sub>	0.47	2.06
			SO <sub>2</sub>	0.01	0.04
			PM <sub>10</sub>	0.11	0.48
			CO	1.24	5.43
			VOC	0.08	0.35
CFL	CFL	Coalescing Filter Mist Elimination Systems (to control emissions from the Line 1 and Line 3 Asphalt Coaters) with ESP as backup	PM <sub>10</sub>	0.63	2.76
			VOC	5.76	25.23
1-1	1-1	Line 1 Stabilizer Storage and Heater Baghouse Stk	PM <sub>10</sub>	0.23	1.01
1-3	1-3	Line 1 Stabilizer Use Bin Baghouse Stack	PM <sub>10</sub>	0.03	0.13

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**  
**Table 1(a) Emission Point Summary**

<b>Date</b>	7/1/2010	<b>Permit No.:</b>	7711A	<b>Regulated Entity No.:</b>	100788959
<b>Area Name:</b>	GAF Materials Corporation, Dallas Facility			<b>Customer Reference No.:</b>	602717464

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this table

<b>AIR CONTAMINANT DATA</b>					
<b>1. Emission Point</b>			<b>2. Component of Air Contaminant Name</b>	<b>3. Air Contaminant Emission Rate</b>	
<b>(A) EPN</b>	<b>(B) FIN</b>	<b>(C) NAME</b>		<b>Pounds per Hour (A)</b>	<b>TPY (B)</b>
1-4	1-4	Line 1 Surfacing Section Dust Collector No. 1 Stack	PM <sub>10</sub>	0.59	2.58
1-5	1-5	Line 1 Surfacing Section Dust Collector No. 2 Stack	PM <sub>10</sub>	0.59	2.58
1-6	1-6	Line 1 Surfacing Section Dust Collector No. 3 Stack	PM <sub>10</sub>	0.59	2.58
COOL1 (total 3 stks)	COOL1 (total 3 stks)	Line 1 Cooling Section	PM <sub>10</sub>	8.52	37.30
			VOC	1.65	7.23
25	25	Sand Application Baghouse	PM <sub>10</sub>	1.50	6.57
26A	26A	Stabilizer Storage Baghouse A	PM <sub>10</sub>	0.15	0.70
26B	26B	Stabilizer Storage Baghouse B	PM <sub>10</sub>	0.29	1.26
27	27	Stabilizer Heater Baghouse	PM <sub>10</sub>	0.09	0.40
28	28	Asphalt Heater	NO <sub>x</sub>	0.59	2.60
			SO <sub>2</sub>	0.004	0.02
			PM <sub>10</sub>	0.04	0.20
			CO	0.50	2.20
			VOC	0.03	0.10
FUG1	FUG1	Plantwide Fugitive Emissions	PM <sub>10</sub>	0.91	3.97
			VOC	0.43	1.88

TCEQ-10153 [Revised 04/08] Table 1(a)

This form is for use by sources subject to air quality permit requirements and may be revised periodically. [APDG 5178 v5]

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**

**Table 1(a) Emission Point Summary**

<b>Date</b>	7/1/2010	<b>Permit No.:</b>	7711A	<b>Regulated Entity No.:</b>	100788959
<b>Area Name:</b>	GAF Materials Corporation, Dallas Facility			<b>Customer Reference No.:</b>	602717464

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this table

<b>AIR CONTAMINANT DATA</b>					
<b>1. Emission Point</b>			<b>2. Component of Air Contaminant Name</b>	<b>3. Air Contaminant Emission Rate</b>	
<b>(A) EPN</b>	<b>(B) FIN</b>	<b>(C) NAME</b>		<b>Pounds per Hour (A)</b>	<b>TPY (B)</b>
COOL3 (total 3 stks)	COOL3 (total 3 stks)	Line 3 Cooling Section	PM <sub>10</sub>	6.74	29.52
			VOC	2.76	12.09
HTR6	HTR6	Line 3 Stabilizer Thermal Fluid Heater Vent	NO <sub>x</sub>	0.60	2.58
			SO <sub>2</sub>	0.01	0.02
			PM <sub>10</sub>	0.05	0.20
			CO	0.49	2.16
			VOC	0.03	0.14

EPN = Emission Point Number

FIN = Facility Identification Number

**TEXAS COMMISSION ON ENVIRONMENTAL QUALITY**

**Table 1(a) Emission Point Summary**

<b>Date</b>	7/1/2010	<b>Permit No.:</b>	7711A	<b>Regulated Entity No.:</b>	100788959
<b>Area Name:</b>	GAF Materials Corporation, Dallas Facility			<b>Customer Reference No.:</b>	602717464

Review of applications and issuance of permits will be expedited by supplying all necessary information requested on this table

AIR CONTAMINANT DATA			EMISSION POINT DISCHARGE PARAMETERS										
1. Emission Point			4. UTM Coordinates of Emission Point			5. Building Height (Feet)	6. Height Above Ground (Feet)	7. Stack Exit Data			8. Fugitives		
(A) EPN	(B) FIN	(C) NAME	Zone	East (Meters)	North (Meters)			(A) Diameter (Feet)	(B) Velocity (fps)	(C) Temperature (°F)	(A) Length (F)	(B) Width (Ft)	(C) Axis Degrees
HTR3	HTR3	T-1 Laminating Adhesive Bulk Storage Tank Heater Vent	14	700,204	3,628,338		22.04	1.00	18.00	200			
HTR4	HTR4	T-2 Laminating Adhesive Bulk Storage Tank Heater Vent	14	700,204	3,628,334		22.04	1.00	18.00	200			
HTR5	HTR5	Asphalt Heater for T-14 and T-15 coating Asphalt Storage and Coating Feed Loop	14	700,217	3,628,331		29.68	2.00	30.00	570			
BLR5	BLR5	Stand-by Boiler Vent	14	700,217	3,628,372		31.79	2.04	50.00	1000			
8	TO1	Thermal Oxidizer Exhaust Stack	14	700,217	3,628,363		36.99	2.03	182.24	1460			
8A	8A	Thermal Oxidizer Exhaust thru Waste Heat Boiler Stack	14	700,218	3,628,365		57	3.94	48.38	583			
WHBLR 1	WHBLR 1	Waste Heat Recovery Boiler Natural Gas Burner Side	14	700,218	3,628,366		57	2.00	14.73	410			
CFL	CFL	Coalescing Filter Mist Elimination Systems (to control emissions from the Line 1 and Line 3 Asphalt Coaters) with ESP as backup	14	700,178	3,628,333		40.77	2.40	32.14	103			
1-1	1-1	Line 1 Stabilizer Storage and Heater Baghouse Stk	14	700,151	3,628,387		44.1	0.80	92.00	96			
1-3	1-3	Line 1 Stabilizer Use Bin Baghouse Stack	14	700,157	3,628,355		43.96	0.84	92.00	200			
1-4	1-4	Line 1 Surfacing Section Dust Collector No. 1 Stack	14	700,121	3,628,341		23.53	2.21	123.00	76			
1-5	1-5	Line 1 Surfacing Section Dust Collector No. 2 Stack	14	700,125	3,628,341		23.53	2.21	92.00	76			
1-6	1-6	Line 1 Surfacing Section Dust Collector No. 3 Stack	14	700,128	3,628,341		23.53	2.21	123.00	76			
COOL1 (total 3 stks)	COOL1 (total 3 stks)	Line 1 Cooling Section	14	700,143	3,628,349		64.27	5.00	32.00	84			
25	25	Sand Application Baghouse	14	700,190	3,628,305		61.23	3.90	65.00	100			
26A	26A	Stabilizer Storage Baghouse A	14	700,214	3,628,310		73.35	0.65	59.00	Ambient			
26B	26B	Stabilizer Storage Baghouse B	14	700,221	3,628,309		73.35	0.65	59.00	Ambient			
27	27	Stabilizer Heater Baghouse	14	700,190	3,628,315		37.08	1.32	35.00	200			
28	28	Asphalt Heater	14	700,242	3,628,344		68.63	2.00	30.00	700			
FUG1	FUG1	Plantwide Fugitive Emissions	14	700,160	3,628,400		--	--	--	--	1048.56	800.52	--
COOL3 (total 3 stks)	COOL3 (total 3 stks)	Line 3 Cooling Section	14	700,180	3,628,310		73	5.00	32.00	84			
HTR6	HTR6	Line 3 Stabilizer Thermal Fluid Heater Vent	14	700,152	3,628,368		39.13	3.00	30.00	700			

EPN = Emission Point Number

FIN = Facility Identification Number

TCEQ-10153 [Revised 04/08] Table 1(a)

This form is for use by sources subject to air quality permit requirements and may be revised periodically. [APDG 5178 v5]

**ATTACHMENT 2. GAF MODELED SOURCE PARAMETERS AND EMISSIONS FOR  
THE FULL IMPACT ANALYSIS**

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GAF Modeled Source Locations and Parameters for the Full Impact Analysis

EPN	Modeled Source ID	Modeled Source Type	Modeled Source Description	UTM Coordinates		Modeled Release		Source Parameters		Modeled Source		Modeled Source		Emission Rates	
				East (m)	North (m)	Height (ft)	(m)	Modeled Source Temperature		Modeled Source Velocity		Modeled Source Diameter		NOx	
								(F)	(K)	(fps)	(m/s)	(ft)	(m)	Hourly (lb/hr)	Annual (tpy)
28	28	POINT	Asphalt Heater	700,242	3,628,344	69	20.92	700	644.26	30	9.14	2.00	0.61	0.59	2.60
8	8	POINT	Thermal Oxidizer Exhaust Stack	700,217	3,628,363	37	11.27	1,460	1066.48	182	55.55	2.03	0.62	1.90	8.31
8A	8A	POINT	Thermal Oxidizer Exhaust thru Waste Heat Boiler	700,218	3,628,365	57	17.37	583	579.26	48	14.75	3.94	1.2	1.90	8.31
WHBLR 1	WHBLR 1	POINT	Waste Heat Recovery Boiler Natural Gas Burner	700,218	3,628,366	57	17.37	410	483.15	15	4.49	2.00	0.61	0.47	2.06
HTR1	HTR1	POINT	Heatec	700,144	3,628,391	17	5.29	469	515.93	21	6.33	2.00	0.61	0.37	1.62
HTR3	HTR3	POINT	T-1 Laminating Adhesive Bulk Storage Tank Heater Vent	700,204	3,628,338	22	6.72	200	366.48	18	5.49	1.00	0.3	0.05	0.22
HTR4	HTR4	POINT	T-2 Laminating Adhesive Bulk Storage Tank Heater Vent	700,204	3,628,334	22	6.72	200	366.48	18	5.49	1.00	0.3	0.05	0.22
HTR5	HTR5	POINT	Asphalt Heater for T-14 and T-15 coating Asphalt	700,217	3,628,331	30	9.05	570	572.04	30	9.14	2.00	0.61	0.10	0.43
HTR6	HTR6	POINT	Line 3 Stabilizer Thermal Fluid Heater Vent	700,152	3,628,368	39	11.93	700	644.26	30	9.14	3.00	0.91	0.60	2.58
HTR7	HTR7	POINT	Asphalt flux heater	700,238	3,628,347	57	17.37	475	519.26	13	4.06	1.50	0.46	0.46	2.00
HTR8	HTR8	POINT	Filled coating heat exchanger heater	700,199	3,628,341	57	17.37	475	519.26	13	4.06	1.50	0.46	0.46	2.00

### ATTACHMENT 3. INVENTORY SOURCE UPDATES AND SUPPORTING DOCUMENTATION

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This section outlines the changes made to the TCEQ PSDB Inventory Retrieval for the American Airlines and DSI Transport facilities as noted within Section 1.3 of this letter.

- **American Airlines Inc [AA] (TCEQ Account No. TA2566T):** Per the TCEQ PSDB, the American Airlines sources are authorized via Permit No. 22299. However, Permit No. 22299 corresponds to "Sealed Air Corporation", not "American Airlines Inc." In addition, the hourly emission rates for four (4) emission sources noted under the AA data block in the PSDB are extremely high. The PSDB files ("*psdb\_NOX\_S\_latha1.txt*" and "*psdb\_NOX\_L\_latha2.txt*") provided by the TCEQ are provided in the electronic submittals. As can be seen from "*psdb\_NOX\_S\_latha1.txt*", the hourly emission rates for Source ID Numbers 12310, 12320, 12500, and 12520 are between one and six (1 - 6) tons per hour (tph) of NO<sub>x</sub>. The annual emission rates for these sources would only account for a few hours of operation in any single year. Based on these two items, additional research was conducted on the Sealed Air Corporation and American Airlines sources as noted below.
  - ***Sealed Air Corporation:*** Per TCEQ records available on-line and the hard copy files obtained from the TCEQ's Austin office, there is only one NO<sub>x</sub> emission source at Sealed Air Corporation (i.e. *EPN OX-1*) authorized via Permit No. 22299 and there are no registered PBRs. This source is included in the PSDB retrieval under the record for Sealed Air Corporation (Account No. TA2554D). As such, no change is proposed for this source.
  - ***American Airlines:*** Per TCEQ's records available on-line, the sources located at this American Airlines facility are authorized under Permit By Rules (PBRs) only. Therefore, in addition to the Technical Review documents available on TCEQ's Remote Server, hard copy PBR Registration documents were obtained from the TCEQ's Austin office. Using these documents, the following was noted:
    - The 4 emission sources (Source ID Numbers: 12310, 12320, 12500, and 12520) with very high hourly emission rates were not included in the hard copy files obtained from the TCEQ's Austin office.
    - Based on the summary of site-wide emissions included in the registration documents for American Airlines, the total hourly emission rates for this facility are 227.36 lb/hr, which is nearly equivalent to the total hourly emission rates from all of the emission sources listed in the PSDB for American Airlines minus the 4 significant sources (230.75 lb/hr). Copies of the PBR registration application documents that include the emission sources and the emissions summary tables showing site-wide emissions (obtained from the TCEQ's Austin's office) are provided in this attachment. The PSDB files appear incorrect, because the sources represented by the Source ID Numbers should

appear in corresponding TCEQ file documentation such as permit applications and permits.

Therefore, these 4 emission sources (Source ID Numbers 12310, 12320, 12500, and 12520) were removed from the inventory sources for American Airlines and all other sources included in the PSDB for this site were modeled with no additional changes.

- **DSI Transport Inc (TCEQ Account No. DB3234W, Permit No. 24954):** Per the TCEQ Central Registry, Permit No. 24954 is cancelled. In addition, per the permitting history for this facility, this facility is no longer in operation (Project No. 108618). Therefore, Source ID numbers 6890 and 6900 were deleted from the inventory sources. The Central Registry Query and the summary of Project No. 108618 are provided in this attachment.

**Emissions Summary Documents for American Airlines Inc.  
(TCEQ Account No. TA2566T)**





## BOILERS

As briefly mentioned in the discussion on space heaters, boilers are used at the AA maintenance facility and the terminal operations facility to supply winter-month heating for the following buildings:

- Hangar I - II [Maintenance Facility];
- Hangar III - IV [Maintenance Facility]; and
- 2W Automotive building [Terminal Operations Facility].

The location of these boilers can be seen on the plots in Attachments II.A Nos. 1, 2 and 5). As stated earlier, these boilers are operated only during winter months or approximately 2,000 hours per year.

The Hangar I - II central utility plant boilers (i.e. three 14.63 MMBtu/hr units constructed 1972) and the Hangar III - IV central utility plant boilers (i.e. three 31.3 MMBtu/hr units constructed 1991) will only fire natural gas. Fuel oil will not be used as backup. The boilers are authorized under Standard Exemption No. 7. The Hangar I - II and Hangar III - IV boilers meet the requirements of Standard Exemption No. 7 as follows:

- maximum heat input rating is less than 40.0 Mmbtu/hr.

The 2.5 MMBtu/hr boiler in the 2W Automotive building meets all the requirements of the latest version of 30 TAC §106.183. Since it can fire only natural gas and the maximum heat input rating is less than 10.0 MMBtu/hr, NO<sub>x</sub> control technology is not required.

## STORAGE TANKS

The AA maintenance and terminal operations facilities have a number of storage tanks which contain a variety of liquids. The majority of these storage tanks are located within the Terminal operations facility. The liquids contained in the storage tanks are as follows:

- gasoline;





## INCINERATORS

Emissions for each of the AA Terminal Operations Facility incinerators were quantified using emission factors from AP-42, 5th Edition, Supplement E, Section 2.1-12. The emission rate calculations were also based on the amount of waste burned per day [assumed 100 lbs], and an operating schedule of 365 days per year. Short term and annual emission calculations are presented in Appendix V A 1 - Table 5. The emissions presented in the table represent emissions from one incinerator.

## SPACE HEATERS AND PRESSURE WASHERS

Emissions for each of the natural gas-fired heaters (i.e. ceiling heating units and the two pressure washer heaters) at both AA facilities were quantified using emission factors from AP-42, 5th Edition, Supplement E, Section 1.4. The emission rate calculations were also based on unit firing rates [MMbtu/hr], an assumed natural gas fuel heating value of 1,020 btu/scf, and an operating schedule commensurate with heater maintenance and service requirements. Short term and annual emission calculations are presented in Appendix V A 1 - Table 6a [Maintenance Facility] and Table 6b [Terminal Operations Facility].

## BOILERS

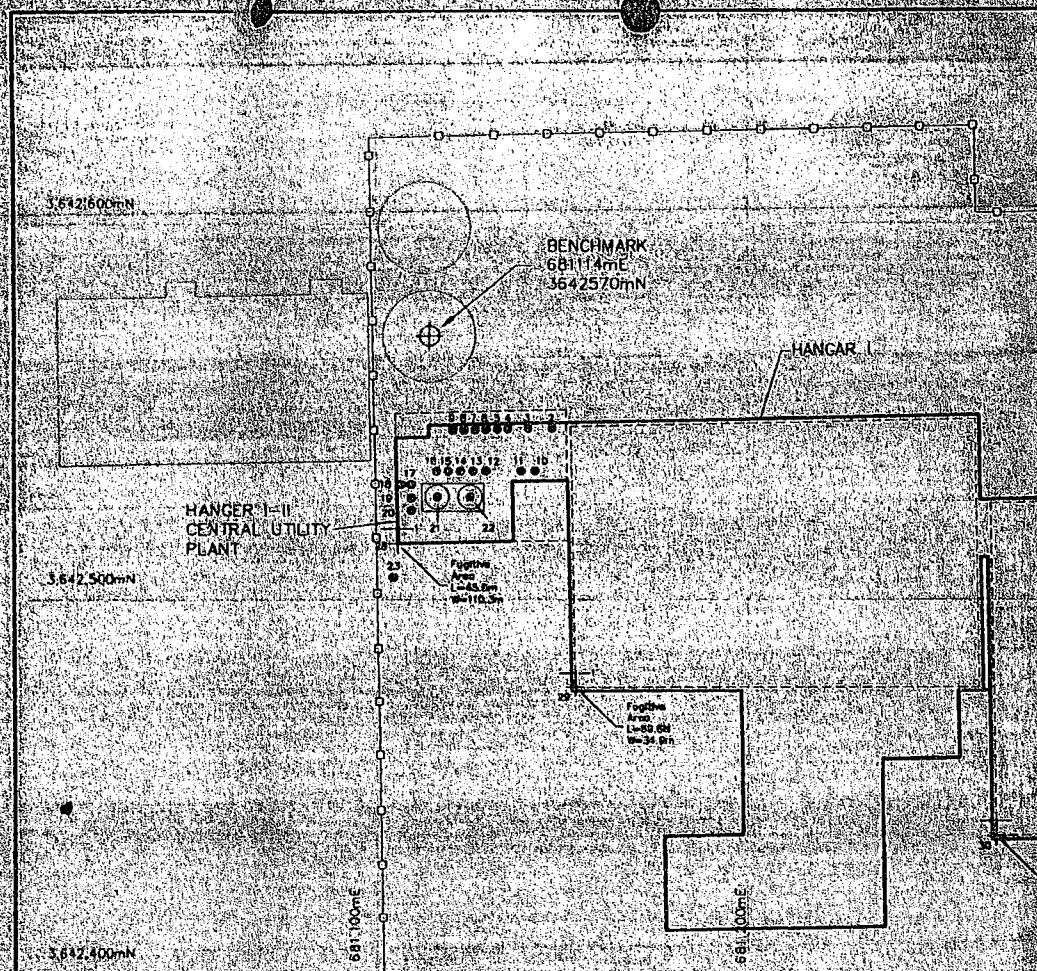
Emissions for each of the natural gas-fired boilers at AA Maintenance facility and the AA Terminal Operations Facility were quantified using emission factors from AP-42, 5th Edition, Supplement E, Section 1.4, Tables 1.4-1 and 1.4-2. The emission rate calculations were also based on unit firing rates [MMbtu/hr], an assumed natural gas fuel heating value of 1,020 btu/scf, and an operating schedule commensurate with winter-month building heating requirements and maintenance/service requirements. Short term and annual emission calculations are presented in Appendix V A 1 - Table 7a [Maintenance Facility] and 7b [Terminal Operations Facility].

## STORAGE TANKS

Emissions for each storage tank at both the Maintenance and Terminal Operations facilities were estimated using the emission factors from AP-42, 5th Edition, Supplement E, Section 5.2, Table 5.2-7 and USEPA Storage Tank Emissions Calculation Software, Version 4.07. The gasoline storage tank emissions were based on the emission factors taken from the AP-42







PLOT ID	EPN	EPN DESCRIPTION	UTM S (m)		PLOT ID	EPN	EPN DESCRIPTION
			(Easting)	(Northing)			
1	H2O1	5,000 gal. used oil tank (UST)	681143.1	3642484.6	28	CUP1FUG	CUP1 Fugitive Area
2	CUP1FUG	Parts Washer	681146.9	3642545.5	29	H1FUG	Hanger 1 Fugitive Area
3	CUP1FUG	15,000 gal. Foam tank	681140.3	3642543.3	30	H2FUG	Hanger 2 Fugitive Area
4	CUP1FUG	Diesel Day tank	681134.6	3642543.3			
5	CUP1FUG	Diesel Day tank	681131.6	3642543.2			
6	CUP1FUG	Diesel Day tank	681128.9	3642543.2			
7	CUP1FUG	Diesel Day tank	681128.0	3642543.1			
8	CUP1FUG	Diesel Day tank	681123.0	3642543.0			
9	CUP1FUG	Diesel Day tank	681120.1	3642543.0			
10	CUP1FOAM1	Foam Pump No.1	681142.2	3642534.0			
11	CUP1FOAM2	Foam Pump No.2	681138.4	3642534.0			
12	CUP1FIRE1	Fire Pump No.1	681128.6	3642534.0			
13	CUP1FIRE2	Fire Pump No.2	681125.4	3642534.0			
14	CUP1FIRE3	Fire Pump No.3	681122.1	3642534.0			
15	CUP1FIRE4	Fire Pump No.4	681118.9	3642534.0			
16	CUP1FIRE5	Fire Pump No.5	681115.8	3642534.0			
17	CUP1BLR3	Boiler No.3	681109.1	3642530.5			
18	CUP1FUG	Diesel Day tank	681106.6	3642530.5			
19	CUP1BLR2	Boiler No.2	681109.1	3642526.8			
20	CUP1BLR1	Boiler No.1	681109.1	3642523.4			
21	CUP1COOL1	Cooling Tower No.1	681118.0	3642527.0			
22	CUP1COOL2	Cooling Tower No.2	681124.6	3642527.0			
23	CUP1DE	10,000 gal. Diesel tank (UST)	681104.4	3642505.9			



# APPENDIX V.A.3 - SITE-WIDE

AMERICAN AIR  
DFW INTERNATIONAL

## MAINTENANCE FACILITY

EMISSION SOURCE GROUP	Short-Term Emission Rates (lb/hr)					
	NOx	CO	VOC	NON-VOC	SO2	PM
ENGINES	192.480	41.460	15.480	0.000	15.160	13.820
HANGAR III-IV FUEL STATION	0.000	0.000	0.160	0.000	0.000	0.000
WELDING	0.000	0.000	0.000	0.000	0.000	0.000
PARTS WASHERS	0.000	0.000	0.030	0.000	0.000	0.000
SURFACE COATING	0.000	0.000	5.600	0.000	0.000	1.330
WIPE SOLVENT CLEANING	0.000	0.000	2.040	0.000	0.000	0.000
HANGAR III-IV VEHICLE SURFACE COATING	0.000	0.000	0.430	0.010	0.000	0.000
SPACE HEATERS	0.860	0.360	0.100	0.000	0.010	0.070
BOILERS	13.510	11.350	1.490	0.000	1.030	0.080
WEST WAREHOUSE FUEL STATION No. 1	0.000	0.000	0.018	0.000	0.000	0.000
WEST WAREHOUSE FUEL STATION No. 2	0.000	0.000	0.190	0.000	0.000	0.000
STORAGE TANKS	0.000	0.000	0.190	0.000	0.000	0.000
TOTAL	207.85	53.17	25.73	0.01	16.20	15.30

## TERMINAL OPERATIONS FACILITY

EMISSION SOURCE GROUP	Short-Term Emission Rates (lb/hr)					
	NOx	CO	VOC	NON-VOC	SO2	PM
ENGINES	17.590	3.770	1.410	0.000	1.380	1.260
WELDING	0.000	0.000	0.000	0.000	0.000	0.000
PARTS WASHERS	0.000	0.000	0.320	0.000	0.000	0.000
SE HOLD PAD FUEL STATION	0.000	0.000	0.160	0.000	0.000	0.000
SW HOLD PAD FUEL STATION	0.000	0.000	0.160	0.000	0.000	0.000
SPACE HEATERS & WASHERS	1.650	1.170	0.180	0.000	0.010	0.130
1E TRUCK MAINTENANCE VEHICLE SURFACE COATING	0.000	0.000	3.190	0.010	0.000	0.000
2W AUTOMOTIVE VEHICLE SURFACE COATING	0.000	0.000	3.190	0.010	0.000	0.000
GATE 2 VEHICLE SURFACE COATING	0.000	0.000	3.190	0.010	0.000	0.000
REFRIGERATORS	0.054	0.182	0.054	0.000	0.046	0.129
BOILER	0.220	0.190	0.020	0.000	0.001	0.020
STORAGE TANKS	0.000	0.000	0.320	0.000	0.000	0.000
TOTAL	19.51	5.31	12.19	0.03	1.44	1.54



# ATTACHMENT V.A. - TABLE 5

AMERICAN AIRLINES, INC. - TERMINAL OPERATIONS FACILITY  
DFW INTERNATIONAL AIRPORT



## SMALL INDUSTRIAL/COMMERICAL MULTIPLE CHAMBER INCINERATOR EMISSION CALCULATIONS<sup>a</sup>

EPNS: 2E-3EINC1 and 2E-3EINC2

CRITERIA POLLUTANT	AP-42 TABLE 2.1-12 EMISSION FACTORS <sup>b</sup> (lb/ton)	WASTE FIRED (lb/day)	WASTE FIRED (ton/day)	WASTE FIRED (ton/yr)	HOURLY ACTUAL EMISSION RATE (ton/hr x 2000/2000) (lb/hr)	ANNUAL ACTUAL EMISSION RATE (lb/ton x ton/yr/2000) (tpy)
PM	7.0	100	0.05	18.25	0.064	0.064
SO <sub>2</sub>	2.5	100	0.05	18.25	0.023	0.023
CO	10.0	100	0.05	18.25	0.091	0.091
TOC <sup>c</sup>	3.0	100	0.05	18.25	0.027	0.027
NO <sub>x</sub>	3.0	100	0.05	18.25	0.027	0.027

### Notes:

- <sup>a</sup> These calculations represent emissions from one incinerator.
- <sup>b</sup> AP-42, 5<sup>th</sup> Edition, Supplement E, Table 2.1-12.
- <sup>c</sup> Annual emission estimations assume 365 days of operation.
- <sup>d</sup> Expressed as methane.

**Permitting Status Documents for DSI Transport Inc.  
(TCEQ Account No. DB3234W)**

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ON ENVIRONMENTAL QUALITY

&gt;&gt; Questions or Comment

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## Central Registry Query - Regulated Entity Information

### Regulated Entity Information

**RN Number:** RN102518396**Name:** DSI TRANSPORT INC**Primary Business:** TRUCK WASHING FACILITY**Street Address:** No street address on file.**County:** DALLAS**Nearest City:** DALLAS**State:** TX**Near ZIP Code:** 75011**Physical Location:** 3151 HALIFAX

### Affiliated Customers - Current

Your Search Returned **1** Current Affiliation Records (View Affiliation History)

#### 1-1 of 1 Records

CN Number	Customer Name	Customer Role	Details
CN600404628	TRIMAC TRANSPORTATION SOUTH INC	OWNER	

### Industry Type Codes

Code	Classification	Name	Primary
4231	SIC	Terminal and Joint Terminal Maintenance Facilities for Motor Freight	Yes

### Permits, Registrations, or Other Authorizations

There are a total of **2** programs and IDs for this regulated entity. Click on a column name to change the sort order.

#### 1-2 of 2 Records

Program▲	ID Type	ID Number	ID Status
AIR NEW SOURCE PERMITS	ACCOUNT NUMBER	DB3234W	ACTIVE
AIR NEW SOURCE PERMITS	PERMIT	24954	CANCELLED

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Last Modified 12/4/08

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[TCEQ Home](#) [Air Permits and Registrations](#)Go To: Title V Federal Operating Permits  
[Online Help](#) [Search Again](#) Last Updated Date : 06/16/2010**Air Permitting Actions for:**account: DB3234W  
program area: NSR  
project status: ALL  
order by: proj\_id  
Click on the Project Number to see details about that permit application.

Program Area	Permit Number	Permit Type	Permit Status	Project Number	Company Name	Customer Number	Project type	TCEQ Received Date	Project Complete Date	Renewal Date	Project Status	Project Name	Regulated Entity	Physical Location	Region Name
NSR	24954	CONSTRUCT	VOID	27366	DSI TRANSPORTS INC	CN600404628	INITIAL	05/03/94	05/02/95	05/02/05	COMPLETE	TANK SEMITRAILER CLEANING FAC.	RN102518396	3151 HALIFAX	REGIO - DFW METRC
NSR	24954	CONSTRUCT	VOID	46255	DSI TRANSPORTS INC	CN600404628	STARTCONST	09/13/96	10/03/96	05/02/05	COMPLETE	TANK SEMITRAILER CLEANING FAC.	RN102518396	3151 HALIFAX	REGIO - DFW METRC
NSR	24954	CONSTRUCT	VOID	108618	DSI TRANSPORTS INC	CN600404628	VOIDPMT	06/07/04	08/02/04	05/02/05	COMPLETE	FACILITY NO LONGER IN OPERATION	RN102518396	3151 HALIFAX	REGIO - DFW METRC

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Go To: Title V Federal Operating Permits  
06/16/2010 -----AirPermits IMS - PROJECT RECORD -----

Company Name: **DSI TRANSPORTS INC**  
Central Registry Id : **CN600404628**

Region: **DFW METROPLEX** Account: **DB3234W** Central Registry Id: **RN102518396**  
County Name: **DALLAS** City: **DALLAS**  
Location : **3151 HALIFAX**

### PROJECT INFORMATION

Project Administrative Name: **FACILITY NO LONGER IN OPERATION**  
Project Technical Name: **FACILITY NO LONGER IN OPERATION**

Project Number: **108618** Permit Number: **24954** Std/Pbr Number:  
Project Received Date: **06/07/2004** Renewal Date: **05/02/2005** Issued Date: **08/02/2004**

Project Type: **VOIDPMT** Permit Type: **CONSTRUCTION**  
Project Status: **COMPLETE**

Assigned Staff:  
**REVIEWR1\_2: MALARCHER , LOUIS**  
Staff Group:  
**OPERATIONAL SUPPORT**

### FEE

Reference	Fee Receipt Number	Amount	Fee Receipt Date	Fee Payment Type
-----------	--------------------	--------	------------------	------------------

### TRACKING ELEMENTS

TE Name	Start Date	Complete Date
<b>CENTRAL REGISTRY UPDATED</b>	<b>08/02/2004</b>	
<b>APIRT RECEIVED PROJECT (DATE)</b>	<b>06/07/2004</b>	

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**ATTACHMENT 4. ELECTRONIC FILES**

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